

Environmental Science 2010
4th & 5th periods, 1st semester

Goals/Objectives for Understanding:

1. Describe concepts and principles of how the earth/environment would operate without human impact.
2. Comprehend the various natural resources and their attributes.
3. Analyze the relationship between humans and Earth's resources.
4. Describe how humans impact their environment.
5. Develop and apply skills of observation, data collection and analysis and scientific reasoning.
6. Analyze information and real data to develop conclusions and make recommendations.
7. Explain scientific ideas both orally and in writing.
8. Acquire an understanding of what is our role/obligation to protect the environment and why it is important.
9. Describe methods to restore areas from human impact and minimize our personal future impact.
10. Conduct scientific investigations effectively and employ instruments, systems of measurement, and materials of science appropriately.
11. Investigate the interdependence of diverse living organisms and their interactions with components in the biosphere.

Supply List

- Text: Environmental Science: Ecology and Human Impact, 2nd Ed. 1996
- class notebook
- composition book for labs
- #2 pencils
- Notecards (optional)
- black or blue pens
- colored pencils
- internet access will be needed for review of online classwork

Expectations

- Participation in all classroom, outdoor, and field (away from school) activities.
- Sit in assigned seats, if applicable.
- Adhere to the school dress code. You will be advised if alternate attire is needed for class activities.
- Be prepared for class – bring all materials needed for the class day.
- Show respect to the teacher and one another, and pay attention in class.
- Follow the school handbook rules and understand the discipline policy defined within it.
- Avoid inappropriate classroom behavior, allowing all to benefit from instruction.
- Adhere to Laboratory Safety Rules and Expectations (Attached)

Field trips will be an integral part of this course therefore all students are expected to attend and participate in the various trips.

Environmental Science 2010 Class Syllabus

I. Introduction to Environmental Science

- a. Studying Earth
- b. Methods of Science

II. Ecosystems and Their Interactions

- a. Needs of an organism
- b. What is an Ecosystem?
- c. Matter and Energy in the Ecosystem
 - i. Roles of living things
 - ii. Ecosystem Structure
 - iii. Energy in the Ecosystem
 - iv. Chemical Cycles
- d. Interactions in the Ecosystem
 - i. Nutrient cycles
 - ii. Habitat & niches
 - iii. populations
- e. Ecological Balance
 - i. Relationships in the Ecosystem
 - ii. Ecological Succession
 - iii. Balance
 - iv. Biomes – a quick review
- f. Biodiversity

III. Resources

- a. Water
 - i. Surface water/groundwater
 - ii. Water quality
 - iii. Water pollution
- b. Minerals/Soil/Land
- c. Air
- d. Energy Resources

IV. Managing Human Impact

V. Careers in Environmental Science (throughout the semester, when time permits)

Course Grading

Grade will be based on cumulative points. The total number of course points will vary depending on topics and labs covered throughout the semester.

In general:

- laboratories 25-50 points,
- tests 100-200 points,
- oral practical: 10-30 points,
- writing assignments\journal 75 points
- final exam worth ~300 points
- field studies 50-100 points
- class participation/homework completion = points worth 10% of course total

Questions, Comments, Help or For more information:

Mrs. Susan Simonson, simonsons@graceacademyonline.org

Course information and grades will be available through **Edline.com**